



# Project Summary

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## Innovative Design and Construction Techniques for Flood Fighting: Physical Modeling

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### Introduction

Flood protection projects are expensive, require substantial real estate acquisitions, and require lengthy planning, design, and construction periods. These factors result in many needed projects being delayed or stopped, especially in highly developed urban areas that need critical flood protection. The Corps must be more innovative in designing and constructing flood protection projects. Real estate acquisition costs, public involvement, and the realities of Government cost-sharing policies place high demands on less-intrusive, less-expensive, innovative solutions to flood protection problems. Effective and efficient methods are urgently needed to reduce costs, time, and right-of-way requirements to improve the nations flood protection.

### Scope of Work

Ten of the most promising innovative techniques for design and construction projects were identified earlier in this work unit. The focus of this effort was to conduct a demonstration project to simulate a flood fight using the Jersey Barriers as a flood control system. Physical modeling will provide better knowledge of the feasibility and operability of this particular method. The demonstration project was conducted at the Centrifuge Research Center, located at WES. The use of the centrifuge allowed physical modeling of the Jersey barriers to be conducted at one-tenth scale. The barriers were subjected to multiple flood events with varying flow rates for a period of 50 minutes. Areas of susceptibility were very evident from centrifuge model results.

### Status of Project

This work unit will develop guidelines/criteria for application of expedient and economical methods for flood fighting techniques that may be employed to raise or reinforce levees, control failures and reduced costs of flood fighting operations.

